

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-31 (Canceled).

Claim 32 (Currently Amended): [[An]] A computer-implemented object content structure management method for managing a content structure of a root object, comprising:

- expressing the content structure of said root object by a tree-structure set membership consisting of one or more objects, said one or more objects comprising one or more parent objects and one or more child objects, each child object respectively corresponding to one of said one or more parent objects;
- defining an attribute capable of being held by said parent and child objects for each of a plurality of object types and each of the plurality of object types by a schema definition;
- managing a list of child objects capable of being held by said root object and defined by said schema definition; and
- sequentially managing a list of first child objects of one of said one or more parent objects as a start object, a list of the first child objects of each start object held by the list of the first child objects, and a second list of child objects of each first child object held by a second list of child objects of the first child objects, thereby managing a content structure of said start object,
- wherein a plurality of child objects of a same type may be held under a schema definition of types of the child objects capable of held by the root object; and
- ~~one of a maximum number and a minimum number~~ of the child objects capable of being held are displayed in said tree structure.

Claim 33 (Previously Presented): An object content structure management method according to claim 32, wherein:

placeholders indicate objects that can exist as said child objects and are managed one by one for each object of a same type.

Claim 34 (Previously Presented): An object content structure management method according to claim 32, further comprising:

managing a plurality of objects including an exclusively selectable object that is capable of being held by a certain parent object by a schema definition of said parent object as a choice list besides said list of child objects;

managing an object selected from among a plurality of choices by a list of child objects of a parent object and managing objects other than said selected object of the choices as said placeholders indicating objects that can exist as child objects in the choice list of said selected object.

Claim 35 (Currently Amended): [[An]] A computer-implemented object content structure display method for displaying a content structure of a root object, comprising:

expressing the content structure of said root object by a tree-structure set membership consisting of one or more objects, said one or more objects comprising one or more parent objects and one or more child objects, each child object respectively corresponding to one of said one or more parent objects;

defining an attribute capable of being held by said parent and child objects for each of a plurality of object types and a type of said object by a schema definition, wherein:

objects held by said root object as child objects are expressed by a tree structure;

a character string representing the object type is displayed on each node of the tree structure to display a structure of the object;

a type and a value of the attribute capable of being held by an object selected from the displayed tree structure are displayed;

a plurality of child objects of a same type may be held under a schema definition of types of the child objects capable of held by the root object; and

~~one of a maximum number and a minimum number~~ of the child objects capable of being held are displayed in said tree structure.

Claim 36 (Canceled).

Claim 37 (Previously Presented): An object content structure display method according to claim 35, wherein:

said tree structure is expressed hierarchically for objects to be held by said root object serving as a root configured to further hold objects; and

structures below the actually existing instance objects are displayed up to a hierarchical level designated at a time of hierarchically displaying said tree structure and display of structures below the designated hierarchical level is omitted.

Claim 38 (Previously Presented): An object content structure display method according to claim 35, wherein:

any one of a plurality of types of objects may be held under a schema definition of types of child objects capable of being held by the root object;

all objects of choices are displayed in a tree structure as child nodes and the objects actually selected and held among the choices and the unselected choices are discriminated from each other by different icons and then displayed.

Claims 39-40 (Canceled).

Claim 41 (Currently Amended): [[An]] A computer-implemented object content structure editing method for editing a content structure of a root object, comprising:

expressing the content structure of said root object by a tree-structure set membership consisting of one or more objects, said one or more objects comprising one or more parent objects and one or more child objects, each child object respectively corresponding to one of said one or more parent objects;

defining an attribute capable of being held by said parents and child objects for each of a plurality of object types and a type of said object by a schema definition, wherein

objects held by said parent object as child objects are expressed by a tree structure;

a character string representing the object type is displayed on each node of the tree structure to display a structure of the object;

a type and a value of an attribute capable of being held by an object selected from the displayed tree structure are displayed;

a value to be changed is inputted and a change is indicated for said displayed attribute value, and the attribute value of the object is updated to the input value;

an addition is indicated after designating one dummy object indicating types of objects which can be held;

a plurality of child objects of a same type may be held under a schema definition of types of the child objects capable of held by the root object; and

~~one of a maximum number and a minimum number~~ of the child objects capable of being held are displayed in said tree structure.

Claim 42 (Original): An object content structure editing apparatus according to claim 41, wherein:

an instance addition is indicated after one of the objects existing in the tree structure is designated; and

an instance object of the same type as a type of the designated object is created and the object of the same type is displayed as a fraternal node of said designated object in the tree structure.

Claim 43 (Original): An object content structure editing method according to claim 42, wherein:

an object permitted to be held as a plural by the schema definition is discriminated from an object prohibited from being held as a plural by the schema definition using different display colors or different icons prior to being displayed; and

instance addition indication is not accepted in cases of objects prohibited from being held as a plural.

Claim 44 (Previously Presented): An object content structure editing method according to claim 41, wherein:

said designated dummy object is changed to an actual instance; and

an icon of said designated dummy object is changed to an icon indicating the actual instance in the tree structure.

Claim 45 (Previously Presented): An object content structure editing method according to claim 44, wherein:

not only said designated dummy object but also ancestor objects of said designated dummy object are dummy objects; and
the ancestor objects are sequentially changed to instances.

Claim 46 (Previously Presented): An object content structure editing method according to claim 41, wherein:

a deletion is indicated after designating the object selected from the displayed tree structure

said designated object is held as a plural;

structures below the objects are deleted and display of the objects is deleted from the tree structure;

the deletion is indicated after designating the actually existing object and

said designated object is a single object; and

nodes below the designated object are changed to dummy objects and display icons of the nodes in the tree structure are changed.

Claim 47 (Previously Presented): An object content structure editing method according to claim 41, wherein:

a selection change is indicated after one of dummy objects indicating unselected choices is designated; and

the objects selected before the selection change are changed to the objects indicating choices and said designated object is changed to a selected object.

Claim 48 (Previously Presented): An object content structure editing method according to claim 41, wherein:

edited object contents are outputted by a description language, the description language being an MPEG-7 description language or an XML description language.

Claim 49 (Currently Amended): A computer-readable medium including a computer program, which when executed by a computer causes the ~~for allowing a~~ computer to execute an object content structure management method for managing a content structure of a root object, comprising:

expressing the content structure of the root object by a tree-structure set membership consisting of one or more objects, said one or more objects comprising one or more parent objects and one or more child objects, each child object respectively corresponding to one of said one or more parent objects;

defining an attribute capable of being held by the parent and child objects for each of a plurality of object types and the object type by a schema definition;

managing a list of child objects capable of being held by said one or more parent objects and defined by said schema definition for each said child object;

sequentially managing a list of first child objects of one of said one or more parent objects as a start object, a list of the first child objects of each start object held by the list of the first child objects, and a second list of child objects of each first child object held by a second list of child objects of the first child objects thereby managing a content structure of said start object, wherein:

the first and second lists of said child objects hold instances of all objects actually existing as the child objects and placeholders indicating objects that can exist as the child objects, and each child object holds determination information for determining whether a

certain object is an instance of an actually existing object or a placeholder indicating an object that can exist as a child object,

a plurality of child objects of a same type may be held under a schema definition of types of the child objects capable of held by the root object, and

~~one of a maximum number and a minimum number~~ of the child objects capable of being held are displayed in said tree structure.

Claim 50 (Currently Amended): A computer-readable medium including a computer program, which when executed by a computer causes the ~~for allowing a computer to execute~~ an object content structure display method for displaying a content structure of a root object, comprising:

expressing the content structure of the root object by a tree-structure set membership consisting of one or more objects, said one or more objects comprising one or more parent objects and one or more child objects, each child object respectively corresponding to one of said one or more parent objects;

defining an attribute capable of being held by the parent and child objects for each of a plurality of object types and the object type by a schema definition;

expressing objects held by said root object as child objects by a tree structure;

displaying a character string representing the object type on each node of the tree structure to display a structure of the object; and

displaying a type and a value of the attribute capable of being held by an object selected from the displayed tree structure,

wherein a plurality of child objects of a same type may be held under a schema definition of types of the child objects capable of held by the root object; and

~~one of a maximum number and a minimum number~~ of the child objects capable of being held are displayed in said tree structure.

Claim 51 (Currently Amended): A computer-readable medium including a computer program, which when executed by a computer causes the ~~for allowing a~~ computer to execute an object content structure editing method for editing a content structure of a root object, comprising:

expressing the content structure of the root object by a tree-structure set membership consisting of one or more objects, said one or more objects comprising one or more parent objects and one or more child objects, each child object respectively corresponding to one of said one or more parent objects;

defining an attribute capable of being held by the parent and child objects for each of a plurality of object types and the object type by a schema definition;

expressing the child objects held by said root object as child objects by a tree structure;

displaying a character string representing the object type on each node of the tree structure to display a structure of the root object; and

displaying a type and a value of an attribute held by the root object selected from the displayed tree structure thereby displaying a content and a structure of the selected object,

wherein a plurality of child objects of a same type may be held under a schema definition of types of the child objects capable of held by the root object; and

~~one of a maximum number and a minimum number~~ of the child objects capable of being held are displayed in said tree structure.

Claims 52-63(Canceled).